

Scope

Overview

The MD_ScopeCode element is used to specify context for the resource the metadata is describing. This context may pertain to the type of complete resource (dataset, service, series, etc), to specific data processing sources and applications utilized to create the complete resource (ancillary data, models, software, etc), to quality report types for assessing aspects of the resource (feature, attribute, sensor etc), and to the frequency of maintenance for a resource (dataset) and/or for the metadata

Recommendations for ISO 19115 and 19115-1

ISO 19115 scope codes are used to provide scope context for complete records, quality reports, and maintenance information. The xpaths to these scope code elements are listed in the table below. ISO 19115-1 adds additional scope code elements for resource lineage and metadata constraints.

ISO 19115	<code>/gmi:MI_Metadata/gmd:hierarchyLevel/gmd:MD_ScopeCode</code> <code>/gmi:MI_Metadata/gmd:dataQualityInfo/gmd:DQ_DataQuality/gmd:scope/gmd:DQ_Scope/gmd:level/gmd:MD_ScopeCode</code> <code>/gmi:MI_Metadata/gmd:metadataMaintenance/gmd:MD_MaintenanceInformation/gmd:updateScope/gmd:MD_ScopeCode</code>
ISO 19115-1	<code>/mdb:MD_Metadata/mdb:metadataScope/mdb:MD_MetadataScope/mdb:resourceScope/mcc:MD_ScopeCode</code> <code>/mdb:MD_Metadata/mdb:dataQualityInfo/mdq:DQ_DataQuality/mdq:scope/mcc:MD_Scope/mcc:level/mcc:MD_ScopeCode</code> <code>/mdb:MD_Metadata/mdb:metadataMaintenance/mmi:MD_MaintenanceInformation/mmi:maintenanceScope/mcc:MD_Scope/mcc:lev</code>

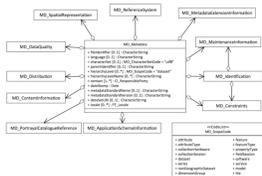
Conceptual Model (UML)

The metadata universe has traditionally been classified into bins for collection level, catalog level, and granule level metadata (or some other similar classification scheme). It is not unusual for each of these levels to require a different approach to metadata and tool development. Many systems have been developed that are focused on a single "level" of documentation.

The ISO 19115 standard changes this picture by including a ScopeCode in each metadata record. This code describes what the metadata actually applies to and it can have many values: attribute, attributeType, collectionHardware, collectionSession, dataset, series, nonGeographicDataset, dimensionGroup, feature, featureType, propertyType, fieldSession, software, service, model, and tile (see Figure).

The name of the scopeCode, hierarchyLevel, implies a hierarchical structure for the metadata. This may not be appropriate in all cases. It is probably beneficial to think more in terms of a traditional scope concept than a hierarchy level in this case.

Note: ISO 19115-1 replaces the hierarchyLevel and hierarchyLevelName elements with the metadataScope element. The grouping of these two elements into metadataScope reduces the ambiguity that occurs when multiple hierarchyLevel and hierarchyLevelName elements exists. The MD_ScopeCode list is also extended with ten additional values.



Implementation (XML) - Metadata Scope

```
<gmd:hierarchyLevel>
<gmd:MD_ScopeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_ScopeCode"
codeListValue="dataset">dataset</gmd:MD_ScopeCode>
</gmd:hierarchyLevel>
or
<gmd:hierarchyLevel>
<gmd:MD_ScopeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_ScopeCode"
codeListValue="series">series</gmd:MD_ScopeCode>
</gmd:hierarchyLevel>
or
<gmd:hierarchyLevel>
<gmd:MD_ScopeCode
codeList="http://www.isotc211.org/2005/resources/Codelist/gmxCodelists.xml#MD_ScopeCode"
codeListValue="service">service</gmd:MD_ScopeCode>
</gmd:hierarchyLevel>
```

Implementation (XML) - Data Quality Scope

```

<gmd:DQ_DataQuality>
  <gmd:scope>
    <gmd:DQ_Scope>
      <gmd:level>
        <gmd:MD_ScopeCode codeList="codeListLocation#MD_ScopeCode"
          codeListValue="fieldSession">fieldSession</gmd:MD_ScopeCode>
      </gmd:level>
      <gmd:extent>
        <gmd:EX_Extent id="Zambia.boundingGeographicBoundingBox">
          <gmd:description>
            <gco:CharacterString>Zambia.boundingGeographicBoundingBox</gco:CharacterString>
          </gmd:description>
          <gmd:geographicElement>
            <gmd:EX_GeographicBoundingBox>
              <gmd:extentTypeCode>
                <gco:Boolean>1</gco:Boolean>
              </gmd:extentTypeCode>
              <gmd:westBoundLongitude>
                <gco:Decimal>23.19258</gco:Decimal>
              </gmd:westBoundLongitude>
              <gmd:eastBoundLongitude>
                <gco:Decimal>23.31258</gco:Decimal>
              </gmd:eastBoundLongitude>
              <gmd:southBoundLatitude>
                <gco:Decimal>-15.493425</gco:Decimal>
              </gmd:southBoundLatitude>
              <gmd:northBoundLatitude>
                <gco:Decimal>-15.373425</gco:Decimal>
              </gmd:northBoundLatitude>
            </gmd:EX_GeographicBoundingBox>
          </gmd:geographicElement>
          <gmd:temporalElement>
            <gmd:EX_TemporalExtent>
              <gmd:extent>
                <gml:TimePeriod gml:id="timeID">
                  <gml:beginPosition>2007-01-01T00:00:00Z</gml:beginPosition>
                  <gml:endPosition>2007-12-31T00:00:00Z</gml:endPosition>
                </gml:TimePeriod>
              </gmd:extent>
            </gmd:EX_TemporalExtent>
          </gmd:temporalElement>
        </gmd:EX_Extent>
      </gmd:extent>
      <gmd:levelDescription>
        <gmd:MD_ScopeDescription>
          <gmd:other>
            <gco:CharacterString>Zambia field study 2007</gco:CharacterString>
          </gmd:other>
        </gmd:MD_ScopeDescription>
      </gmd:levelDescription>
    </gmd:DQ_Scope>
  </gmd:scope>
  <gmd:report/>
  <gmd:lineage/>
</gmd:DQ_DataQuality>

```

Usage

Usage	Description and Xpath
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<p style="text-align: center;">Metadata Scope</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">MD_Metadatas</p> <ul style="list-style-type: none"> + fileIdentifier [0..1] : CharacterString + language [0..1] : CharacterString + characterSet [0..1] : MD_CharacterSetCode = "utf8" + parentIdentifier [0..1] : CharacterString + hierarchyLevel [0..*] : MD_ScopeCode = "dataset" + hierarchyLevelName [0..*] : CharacterString + contact [1..*] : CI_ResponsibleParty + dateStamp : Date + metadataStandardName [0..1] : CharacterString + metadataStandardVersion [0..1] : CharacterString + dataSetURI [0..1] : CharacterString + locale [0..*] : PT_Locale </div>	<p>The ScopeCode in the MD/MI_Metadatas describes what the entire code is "dataset". Below examples of other possible scopeCode</p> <ul style="list-style-type: none"> • dimensionGroup: This code can be used in Forecast Mode the same dimensions. • series: The ISO Standard includes the capability to describe seriesMetadata would have hierarchyLevel="series". • service: The ISO 19119 Standard that describes services sl metadata includes information about the service and referen metadata record is to describe the service, it makes sense fo <p>/gmd:MD_Metadatas/gmd:hierarchyLevel/gmd:MD_ScopeCode</p>
<p style="text-align: center;">Data Quality Scope</p>	<p>The ScopeCode in DQ_Scope is used to define the type and/or or e</p> <p>Note: ISO 19115 -1 removes lineage content from the DQ_DataC resourceLineage.</p> <p>/gmd:MD_Metadatas/gmd:dataQualityInfo/gmd:DQ_DataQuality/g</p>
<p style="text-align: center;">Maintenance Scope</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center; margin: 0;">MD_MaintenanceInformation</p> <ul style="list-style-type: none"> + level: MD_ScopeCode + maintenanceAndUpdateFrequency : MD_MaintenanceFrequencyCode + dateOfNextUpdate [0..1] : Date + userDefinedMaintenanceFrequency [0..1] : TM_PeriodDuration + updateScope [0..*] : MD_ScopeCode + updateScopeDescription [0..*] : MD_ScopeDescription + maintenanceNote [0..*] : CharacterString + contact [0..*] : CI_ResponsibleParty </div>	<p>The ScopeCode in MD_MaintenanceInformation is used to defin</p> <p>/gmd:MD_Metadatas/gmd:metadataMaintenance/gmd:MD_Mainte</p>

19115-1 Revisions

19115	19115-1
<p>//gmd:hierarchyLevel//gmd:MD_ScopeCode</p> <p>//gmd:hierarchyLevelName/gco:CharacterString</p>	<p>//mdb:metadataScope/mdb:MD_MetadatasScope/mdb:resourceScope/mcc:MD_ScopeCode</p> <p>mdb:metadataScope/mdb:MD_MetadatasScope/mdb:name/gco:CharacterString</p>

N/A	//MD_Constraints/mco:constraintApplicationScope/mcc:MD_Scope
N/A	//mrl:LI_Lineage/mrl:scope/mcc:MD_Scope
N/A	//mrl:LI_Source/mrl:scope/mcc:MD_Scope
N/A	//mrl:LI_ProcessStep/mrl:scope/mcc:MD_Scope
N/A	//mdq:DQ_DataQuality/mdq:report*/mdq:result*/mdq:resultScope/mdq:DQ_Scope